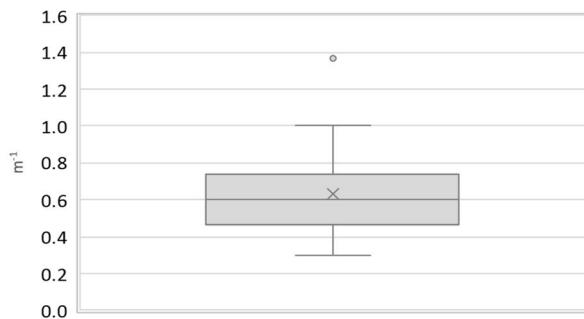


Region:	Liguria					Archetype code: RES_APPBLOCK_ 1981-1990_F_LIG		
Building category:	Residential buildings – Apartments in multi-family block							
Period of construction:	1981-1990							
Climatic zone:	F	Number of records:			21			
Description: <u>External walls</u> : no data available <u>Roof slabs</u> : no data available							Data sources: EPC databases (100%)	
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Q2 (Median value)	Q3 (third quartile)
BUILDING GEOMETRY	Number of floors	n_f	-	-	-	-	-	-
	Gross height	H_g	m	-	-	-	-	-
	Footprint area	$A_{\text{footprint}}$	m ²	-	-	-	-	-
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	-	-	-	-	-
	Heated gross volume	$V_{H,g}$	m ³	-	-	-	-	-
	Heated net volume	$V_{H,n}$	m ³	-	-	-	-	-
	Compactness ratio	$A_{\text{env}}/V_{H,g}$	m ⁻¹	0.63	0.24	0.47	0.60	0.74
	WWR – North orientation	WWR_N	-	-	-	-	-	-
	WWR – South orientation	WWR_S	-	-	-	-	-	-
	WWR – East orientation	WWR_E	-	-	-	-	-	-
	WWR – West orientation	WWR_W	-	-	-	-	-	-
	Window to useful floor area ratio	A_{wi}/A_{use}	-	-	-	-	-	-
ENVELOPE	Roof type	-						
	U-value of the roof	$U_{fi;up}$	W/(m ² ·K)	-	-	-	-	-
	External walls type	-						
	U-value of the wall	U_{wl}	W/(m ² ·K)	1.06	0.33	0.87	1.10	1.19
	Slab on ground floor type	-						
	U-value of the floor	$U_{fi;lw}$	W/(m ² ·K)	-	-	-	-	-
	Windows type	-						
	U-value of the windows	U_W	W/(m ² ·K)	3.80	1.37	2.56	4.52	4.96
GAINS and VENTILATION	Shading system type	-						
	Occupancy density *	O_C	person/m ²	UNI EN 16798-1 - Table A.19				
	Lighting power density *	W_L	W/m ²	UNI EN 16798-1 - A.8.3				
	Equipment power density *	W_A	W/m ²	UNI EN 16798-1 - A.8.3				
	Type of ventilation	Natural: 100%						
THERMAL SYSTEMS	Air exchange rate *	n	h ⁻¹	0.30	0.00	0.30	0.30	0.30
	Heating system type	-						
	Heating generator	Unknown: 48%; Traditional boiler: 33%; Fireplace: 19%						
	Daily operating time of the heating system *	No limitations						
	Energy carrier	Unknown: 47%; Natural gas: 14%; Electricity and solid biomass: 14%; Gas Oil: 10%; LPG: 10%; Solid biomass: 5%						
	Heating emission sub-system	Unknown: 47%; Radiators: 43%; Air Ducts: 5%; Fan-coil: 5%						
	Cooling system type	-						
	Daily operating time of the cooling system *	t_c	h	-	-	-	-	-
	Cooling emission sub-system	-						
	DHW system type	-						
	DHW generator	Unknown: 56%; Electric boiler: 29%; Natural gas boiler: 10%; Electric heat pump: 5%						
* These values were not available in the considered sources, and are thus derived from UNI EN Standards								

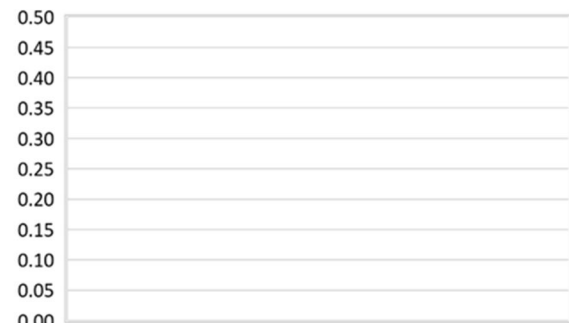
Region:	Liguria	Archetype code: RES_APPBLOCK_ 1981-1990_F_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1981-1990	
Climatic zone:	F	
Number of records:		21

Numerical variables – GEOMETRY

COMPACTNESS RATIO



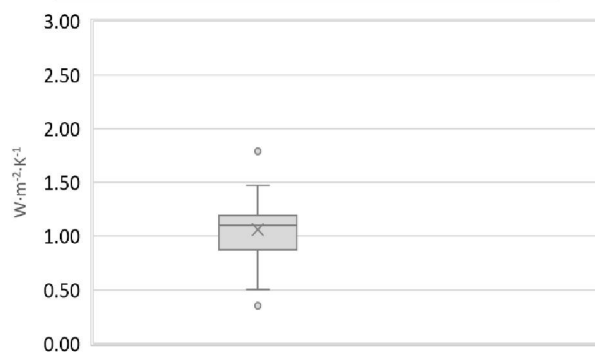
WINDOWS TO WALL RATIO



■ WWR_N ■ WWR_S ■ WWR_E ■ WWR_W ■ Awi/Ause

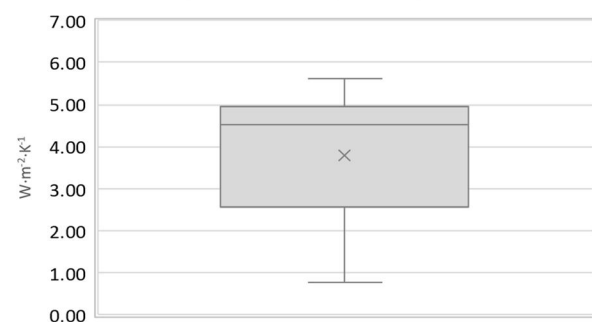
Numerical variables – ENVELOPE

OPAQUE BUILDING COMPONENTS U-VALUE



■ External walls ■ Slab on ground floor ■ Roof

WINDOWS U-VALUE



Numerical variables – GAINS, VENTILATION and SYSTEMS USAGE (Standard Values)

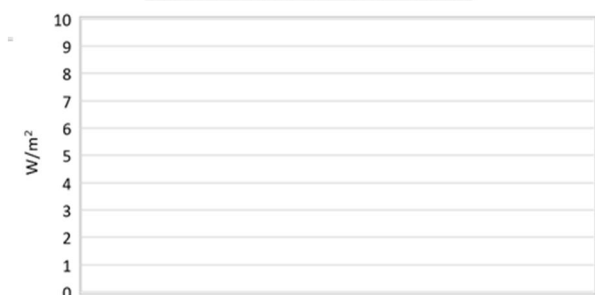
AIR EXCHANGE RATE



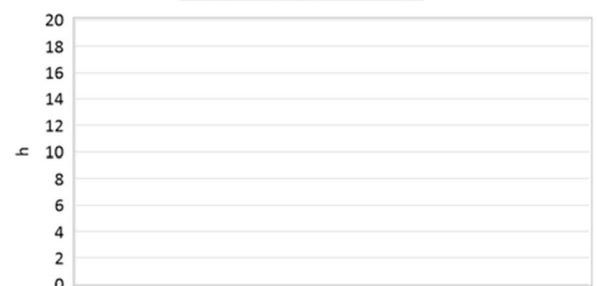
OCCUPANCY DENSITY



INTERNAL GAINS POWER DENSITY



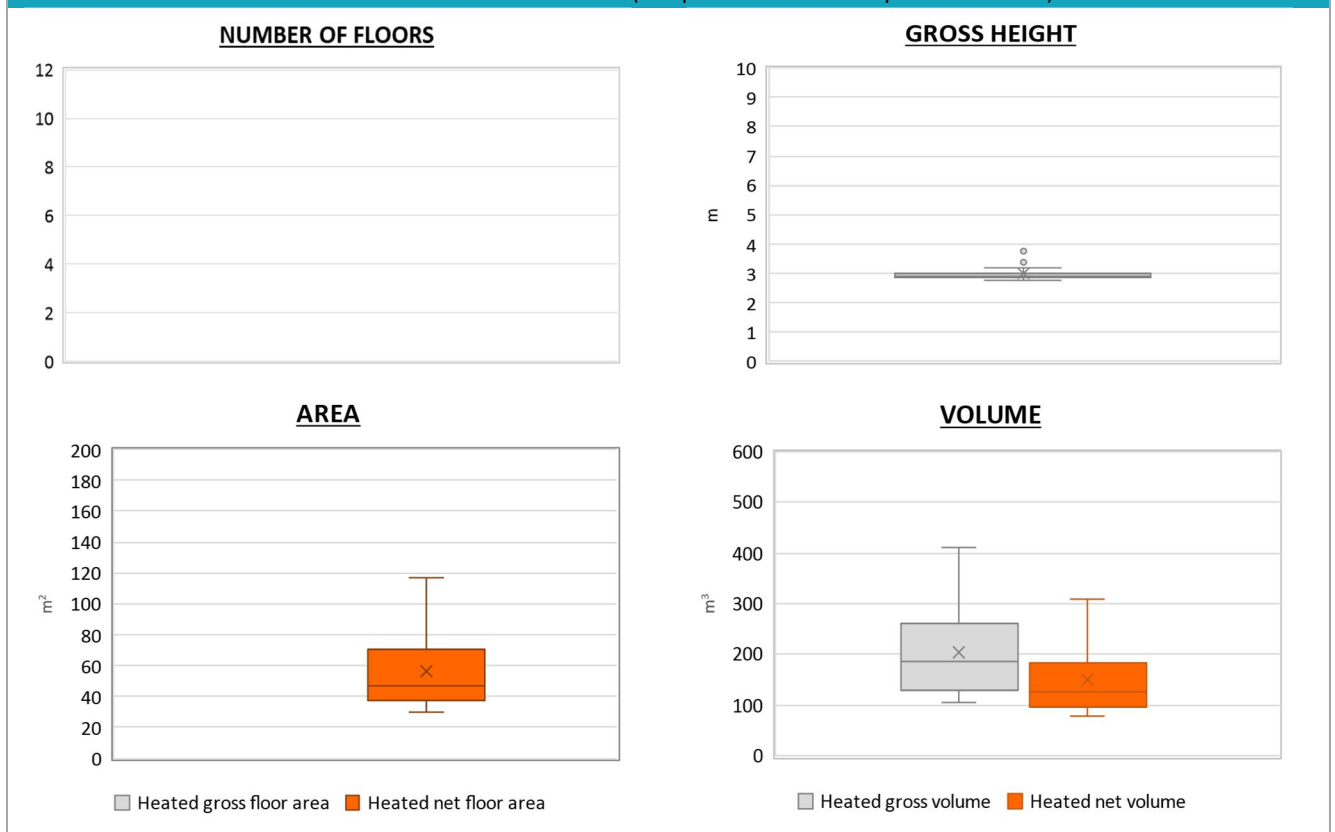
DAILY OPERATING TIME



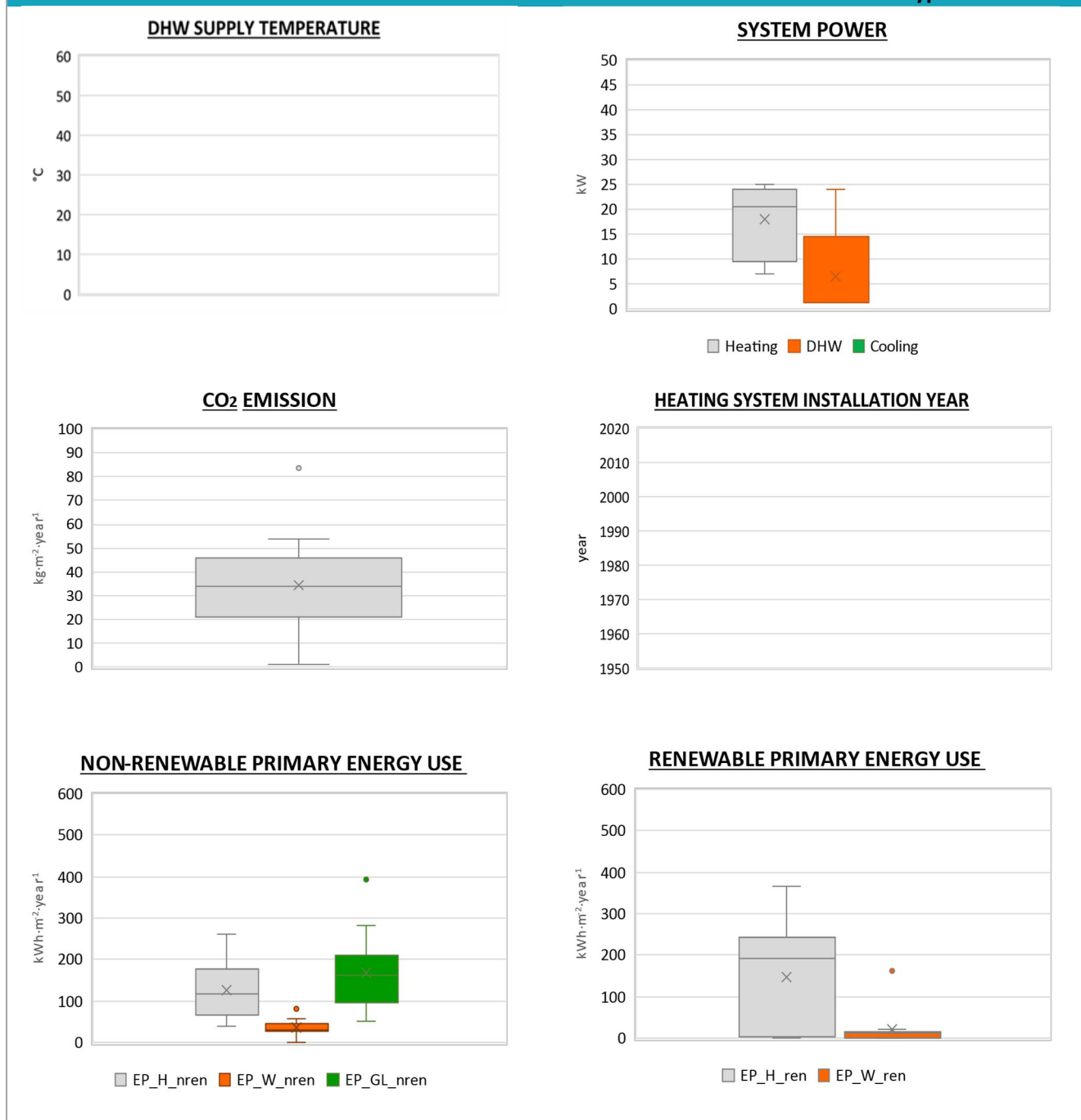
■ Heating ■ Cooling

Region:		Liguria				Archetype code: RES_APPBLOCK_ 1981-1990_F_LIG		
Building category:		Residential buildings – Apartments in multi-family block						
Period of construction:		1981-1990						
Climatic zone:		F	Number of records:		21			
ADDITIONAL DATA								
	Data	Symbol	Unit of measure	Mean value	Standard deviation	Q1 (first quartile)	Median value	Q3 (third quartile)
GEOMETRY: apartments	Inter-storey height	H_n	m	3.0	0.2	2.9	2.9	3.0
	Heated gross floor area	$A_{H,g}$	m ²	-	-	-	-	-
	Heated net floor area	$A_{H,n}$	m ²	56.8	26.3	37.5	46.5	70.4
	Heated gross volume	$V_{H,g}$	m ³	203.3	84.8	129.7	187.5	261.4
	Heated net volume	$V_{H,n}$	m ³	151.5	68.3	96.6	125.6	184.0
THERMAL SYSTEMS	Heating efficiency or <i>COP</i>	$\eta_{H,gen}$ Or $COP_{H,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total heating power *	$P_{H,gen}$	kW	18.1	7.4	9.4	20.6	24.0
	Cooling efficiency or <i>EER</i>	$\eta_{C,gen}$ Or $EER_{C,gen}$	-	This value has to be retrieved from suitable datasheets				
	Total cooling power *	$P_{C,gen}$	kW	-	-	-	-	-
	Temperature of DHW	θ_W	°C	-	-	-	-	-
	DHW system power *	$P_{W,gen}$	kW	6.5	8.3	1.2	1.4	14.5
	* These values refer to the apartment scale							

Additional data: GEOMETRY (the plots refer to the apartment scale)



Region:	Liguria	Archetype code: RES_APPBLOCK_ 1981-1990_F_LIG
Building category:	Residential buildings – Apartments in multi-family block	
Period of construction:	1981-1990	
Climatic zone:	F	
Number of records:		21

Additional data: other numerical variables that are not included in the archetype


NOTE: Sample size of the analysed data.

Compactness ratio: 21; U-value of the wall: 20; U-value of the windows: 21; Inter-storey height: 21; Heated net floor area: 21; Heated gross volume: 21; Heated net volume: 21; Total heating power: 8; DHW system power: 12; CO₂ Emission: 18; EP_H_nren: 21; EP_W_nren: 20; EP_GL_nren: 20; EP_H_ren: 10; EP_W_ren: 13